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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,508	11/02/2000	Charles W. Hewitt	601-1-100	4767

23565 7590 08/29/2003

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EXAMINER
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LU, TOM Y

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 08/29/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/704,508

Applicant(s)

HEWITT ET AL.

Examiner

Tom Y Lu

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings filed on 11/02/2000 are objected to because of draftperson's remarks (see attached PTO-948). In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kakibayashi et al (U.S. Patent No. 5,552,602).

- a. As applied to Claim 8, which is representative of Claim 1, Kakibayashi discloses (a) a means for obtaining a plurality of images (Kakibayashi at column 25, line 14 teaches obtaining two projection images from different directions as shown in figure 30) of the specimen along a plurality of planes defining the thickness of the specimen (Kakibayashi in figure 30 shows a plurality of planes 514, which are also the cross-section images as mention at column 25, line 18), in which the plurality of images comprise at least two images taken at different angles relative to each other (Kakibayashi teaches two projection image are taken in different angles and they are relative to each other by a tilting angle as described at column 25, line 15. also see figure 30); (b) a means for cross-correlating information (Kakibayashi discloses the

cross-correlating information at column 25, lines 28-35) obtained from the angled views of step (a) to produce a single output image (Kakibayashi at column 25, lines 18-19, teaches using two projection image to produce a cross-sectional image, the cross-sectional image is the claimed "output image") for the each one of the plurality of planes comprising a confocal emulated image (the cross-sectional image is the claimed "confocal emulated image" because the cross-sectional image is produced based on two projection images, which have the same focus) for each one of the plurality of planes to define a plurality of confocal emulated images (Kakibayashi in figure 30 shows a cross-sectional image for each plane).

- b. As applied to Claim 9, which is representative of Claim 2, Kakibayashi discloses a means for stacking the plurality of confocal emulated images to produce a three-dimensional reconstruction of the specimen (Kakibayashi at column 25, lines 22-23, teaches "constructing a 3-dimensional structure by piling the 2-dimentional cross-sectional images").
- c. Referring to Claim 3, Kakibayashi discloses wherein all the images are obtained in the same plane and plane area, the locations of the said plane and area relative to said specimen being the same at the time all images are obtained (Kakibayashi teaches two projection images are taken at the same plane in order to create a cross-sectional image).
- d. Referring to Claim 4, Kakibayashi discloses each image is obtained on a surface comprising a regular arrangement of pixels, each pixel capable of representing absorbed light so that information on both the frequency and intensity of the light absorbed is computer readable (column 26, lines 15-23. Note an image processor 110

mentioned at column 21, line 64 is a computer processor, which is attached to the microscope to perform image analysis and 3-dimensional displaying. Therefore, the limitation of "computer readable" is satisfied).

- e. Referring to Claim 5, Kakibayashi discloses the information cross-correlated comprises light frequency information and intensity absorbed by each pixel (column 25, lines 28-35).
- f. Referring to Claim 6, Kakibayashi discloses wherein the cross-correlation comprises a cross correlation of information between a linear arranged sequence of pixels from each image, the sequences at least partially overlapping (column 25, lines 61-67, column 26, lines 1-3, see figures 31A and 31B for overlapping).
- g. Referring to Claim 7, Kakibayashi discloses wherein the cross-correlation will, for purposes of constructing a confocal emulated image, score as undesirable that specific image information that is displaced in one image relative to the other and will score as desirable that specific image information that is not displaced in one image relative to the other, and further for purposes of constructing a confocal emulated image will tend to retain desirable information and to eliminate undesirable information (column 26, lines 4-13, lines 14-23, also see figure 31A and 31B).
- h. Referring to Claim 10, Kakibayashi discloses electronically, magnetically, or electromagnetically stored data generated by the method of Claim 1 (Kakibayashi teaches using a computer as an image processor, which inherently contains a electronically, magnetically, or electromagnetically memory storage).

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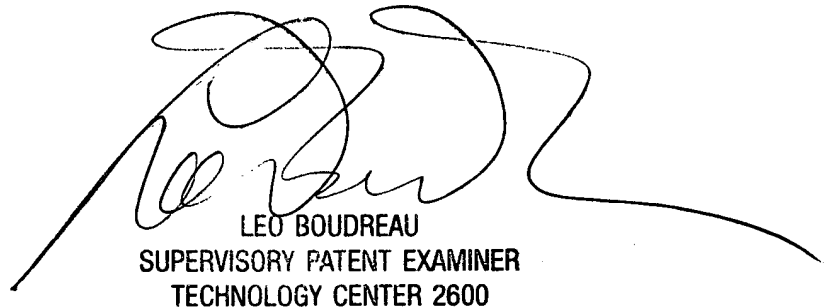
*Conclusion*

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y Lu whose telephone number is (703) 306-4057. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tom Y. Lu



LEO BOUDREAU  
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